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(54) Title: GPR22 MODULATORS AS APPETITE-CONTROL AGENTS

(57) Abstract: The use of the G protein coupled receptor GPR22 to identify appetite control agents and diagnostic agents.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 01/01874

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/12 C07K14/705 G01N33/50 G01N33/68 C07K16/28
A01K67/027 A61K31/7088 A61K38/17 //A61P3/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K A61K A01K G01N C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

SEQUENCE SEARCH, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99 10491 A (INCYTE PHARMA INC ;CORLEY NEIL C (US); GUEGLER KARL J (US); LAL PR) 4 March 1999 (1999-03-04) the whole document	6-8, 12
X	WO 00 22129 A (ARENA PHARMACEUTICALS INC ;LIAW CHEN W (US); BEHAN DOMINIC P (US);) 20 April 2000 (2000-04-20) page 34, paragraph 14. SEQ IDs 189 and 190 claims	8

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

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09/04/2002

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INTERNATIONAL SEARCH REPORT

Intern. Application No

PCT/GB 01/01874

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>O'DOWD B F ET AL: "Cloning and chromosomal mapping of four putative novel human G-protein-coupled receptor genes" GENE: AN INTERNATIONAL JOURNAL ON GENES AND GENOMES, vol. 187, no. 1, 10 March 1997 (1997-03-10), pages 75-81, XP004093242 ISSN: 0378-1119 cited in the application ----</p>	
A	<p>SAKURAI T ET AL: "Oxerins and oxerin receptors: A family of hypothalamic neuropeptides and G Protein-coupled receptors that regulate feeding behaviour" CELL, vol. 92, 20 February 1998 (1998-02-20), pages 573-585, XP002105412 ISSN: 0092-8674 cited in the application -----</p>	

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Present claims 1 to 5 relate to compounds defined by reference to a desirable characteristic or property, namely being (ant)agonists of the GPR22 receptor.

The claims cover all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the compounds by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole scope of the claims impossible. Consequently, the search has been restricted to those embodiments specifically exemplified, i.e. to the compounds of claims 6 to 8.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

Inter. Patent Application No

PCT/GB 01/01874

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9910491	A	04-03-1999	US 5994097 A	30-11-1999
			AU 8921198 A	16-03-1999
			CA 2301498 A1	04-03-1999
			EP 1009828 A1	21-06-2000
			JP 2001513997 T	11-09-2001
			WO 9910491 A1	04-03-1999
<hr/>				
WO 0022129	A	20-04-2000	AU 6299199 A	01-05-2000
			AU 6430799 A	01-05-2000
			EP 1137776 A2	04-10-2001
			EP 1121431 A1	08-08-2001
			ES 2163384 T1	01-02-2002
			WO 0021987 A2	20-04-2000
			WO 0022129 A1	20-04-2000
			WO 0022131 A2	20-04-2000
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